

No of printed pages: 01

Seat No.:



A Charutar Vidya Mandal's Institution
V.P. & R.P.T.P. SCIENCE COLLEGE
(AUTONOMOUS) (Grant-in-Aid)
Affiliated to Sardar Patel University
VALLABH VIDYANAGAR-388120



Bachelor of Science (Semester II) External Examination - 2025

Subject Code : US02IDPHY01

SUBJECT NAME: PHYSICS

Date: 10-04-2025

Day: Thursday

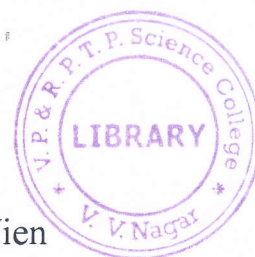
Time: 02:00 pm to 03:30 pm

Total Marks :25

Note: Figures to the right indicate marks of the question.

Q. 1. Write the most appropriate answer from the following multiple-choice questions. [05]

1. How many diodes are used in a bridge rectifier circuit?
(a) 3 (b) 2 (c) 4 (d) 1
2. What is the name of a circuit which converts ac voltage into dc voltage?
(a) transformer (b) inductance (c) resistance (d) rectifier
3. In which of the following, LEDs are used ?
(a) rectifiers (b) transformers (c) tank circuits (d) display units
4. How many circuit elements are joined together at a junction point?
(a) only 1 (b) only 2 (c) 3 three or more (d) 0
5. Which bridge is used to determine the unknown capacitance?
(a) Schering (b) Maxwell (c) Ampere (d) Wien



Q. 2 What is a rectifier? With proper diagram explain construction and working of a Half-Wave rectifier. Obtain expression for its output dc voltage. (10)

OR

- (a) With proper diagram explain construction and working of a Centre-Tap rectifier. (05)
- (b) Explain construction and working of a Bridge rectifier with proper diagram. (05)

Q. 3 With proper diagram explain (i) node (ii) junction and (iii) mesh of a network. (10). With example explain mesh current analysis method for a two mesh network.

OR

Explain balancing conditions for ac bridge. Explain construction and working of a Maxwell bridge with diagram. (10)